Land Use Filter / Base Factor Table for Assessments

In the original Model, the baseline factor was higher for Agricultural, Commercial, Manufacturing and Residential Property. A decision was made based on a recommendation by Leonard Massie (A programming note that I found) to level the Base Line Index for all Land Use Types to 1000 units. The feeling was that the Land Use Index was sufficient in determining separation of benefits based on land use.

Step 1 = Search for "G1" If a parcel is designated as "G1" exclusively, or residential it is assessed the Flat Fee. In some instances for example, we'll have a parcel with both a 'G1' and a 'G4'. In such instanced, the parcel is treated as the 'second' code. In this example it would be treated as agriculture. A real example are those cases where someone builds a home on a 35 acre parcel. What also happens in this step is the removal of properties that have a Land Use Factor of '0'. These are the government exempt properties.

| UseCode | Classification | LandUseFactor | LandUseIndex | BaseLineIndex |
|---|---|---|---|---|
| CEM | Cemetery | 2 | 2000 | 1000 |
| G1 | Residential | 4 | 4000 | 1000 |
| G2 | Commercial | 10 | 10000 | 1000 |
| G3 | Manufacturing | 14 | 14000 | 1000 |
| G4 | Agriculture | 2 | 2000 | 1000 |
| G5 | Undeveloped | 1.5 | 1500 | 1000 |
| G5m | Agricultural Forest | 1.5 | 1500 | 1000 |
| G6 | Productive Forest Lands | 1.5 | 1500 | 1000 |
| G7 | Other | 2 | 2000 | 1000 |
| P1 | Parks & Rec | 2 | 2000 | 1000 |
| W1 | Private Forest Crop Pre 72 | 1.5 | 1500 | 1000 |
| W10 | Wetland Ag Use | 1.5 | 1500 | 1000 |
| W2 | Private Forest Crop Post 71 | 1.5 | 1500 | 1000 |
| W3 | Private Forest Crop Special | 1.5 | 1500 | 1000 |
| W4 | County Forest Crop | 1.5 | 1500 | 1000 |
| W5 | Managed Forest Lands Open Entered After 2004 | 1.5 | 1500 | 1000 |
| W6 | Managed Forest Lands Closed Entered After 2004 | 1.5 | 1500 | 1000 |
| W7 | Managed Forest Lands Open Entered Before 2005 | 1.5 | 1500 | 1000 |
| W8 | Managed Forest Lands Closed Entered Before 2005 | 1.5 | 1500 | 1000 |
| W9 | Wetland | 1 | 1000 | 1000 |
| X1 | Federal Exempt | 0 | 0 | 1000 |
| X2 | State Exempt | 0 | 0 | 1000 |
| X3 | County Exempt | 0 | 0 | 1000 |
| X4 | Other Exempt | 2 | 2000 | 1000 |
| X5 | Other Exempt (For Reporting Only) | 0 | 0 | 1000 |
| X6 | Municipal Detention Area | 2 | 2000 | 1000 |
| X7 | Municipal Sewer Plant | 10 | 10000 | 1000 |
| X8 | Municipal Recycling | 4 | 4000 | 1000 |

The following table is the Soils table which comes from the 'Soil Survey of Dane County'.

| SoilType | SoilName | DepthHighWater | WaterTableFactor | CropBuAC | YieldFactor |
|---|---|---|---|---|---|
| Ad | Adrian Muck | 0-1 | 1 | 90 | 0.77 |
| Af | Alluvial Land Wet | 0-1 | 1 | 120 | 0.77 |
| BaB2 | Basco Silt Loam, 2 to 6 percent slopes, eroded | 2-4 | 0.5 | 100 | 0.77 |
| BaC2 | Basco Silt Loam, 6 to 12 percent slopes, eroded | 2-4 | 0.5 | 90 | 0.77 |
| BbA | Batavia Silt Loam, gravelly substratum 0-2% slopes | 3-5 | 0.5 | 155 | 1 |
| BbB | Batavia Silt Loam, gravelly substratum 2-6% slopes | >5 | 0 | 150 | 0.97 |
| BbC2 | Batavia silt loam, gravelly substratum, 6 to 12 percent slopes, eroded | 3-5 | 0.5 | 120 | 0.77 |
| BoB | Boyer Sandy Loam 2-6% slopes | >5 | 0 | 85 | 0.55 |
| BoC2 | Boyer Sandy Loam, 6 to 12 percent slopes, eroded | >6 | 0 | 0 | 0 |
| BoD2 | Boyer Sandy Loam, 12 to 20 percent slopes, eroded | >7 | 0 | 0 | 0 |
| ChB | Chaseburg Silt Loam 2-6% Slopes | 3-5 | 0.5 | 110 | 0.71 |
| Co | Colwood Silt Loam | 0-1 | 1 | 100 | 0.65 |
| Cu | Cut and fill land | 0-1 | 1 | 155 | 1 |
| DnB | Dodge Silt Loam, 2-6% Slopes | >5 | 0 | 120 | 0.77 |
| DnC2 | Dodge Silt Loam, 6-12% Slopes, eroded | >5 | 0 | 110 | 0.71 |
| DoC2 | Dodge and Kidder 6-20% slopes eroded | >5 | 0 | 85 | 0.55 |
| DrD2 | Dresden Loam, 12-20% slopes, eroded | >5 | 0 | 90 | 0.58 |
| DrE2 | Dresden Loam, 20-30% slopes, eroded | >5 | 0 | 70 | 0.55 |
| DsB | Dresden Silt Loam, 2-6% Slopes | >5 | 0 | 110 | 0.71 |
| DsC2 | Dresden Silt Loam, 6-12% Slopes | >5 | 0 | 100 | 0.65 |
| DuC2 | Dunbarton silt loam, 6-12% slopes, eroded | >5 | 0 | 110 | 0.71 |
| DuE2 | Dunbarton silt loam, 20-30% slopes, eroded | >5 | 0 | 70 | 0.71 |
| EdB2 | Edmund Silt Loam, 2-6% slopes, eroded | >5 | 0 | 80 | 0.5 |
| EdD2 | Edmund silt loam, 12-20% slopes, eroded | >5 | 0 | 0 | 0 |
| EfB | Elburn Silt Loam 1 to 4% slope | 1-3 | 0.75 | 145 | 0.94 |
| EgA | Elburn Silt Loam 0-3% Slopes | 1-3 | 0.75 | 150 | 0.97 |
| EhC2 | Eleva Sandy Loam, 6-12% Slopes, eroded | >5 | 0 | 55 | 0.71 |

| SoilType | SoilName | DepthHighWater | WaterTableFactor | CropBuAC | YieldFactor |
|---|---|---|---|---|---|
| EmD2 | Elkmound Sandy Loam, 12-20% Slopes, eroded | >5 | 0 | 55 | 0.71 |
| EmE2 | Elkmound Sandy Loam, 20-30% Slopes, eroded | >5 | 0 | 55 | 0.71 |
| Ev | Elvers Silt Loam | 0-1 | 1 | 110 | 0.71 |
| Gn | Granby Loamy Sand | 0-1 | 0.25 | 70 | 0.55 |
| Gp | Gravel Pit | >5 | 0 | 100 | 0.65 |
| GwB | Griswold | >5 | 0 | 110 | 0.71 |
| GwC | Griswold Loam 6 to 12% slope | >5 | 0 | 110 | 0.71 |
| GwD2 | Griswold Loam | >5 | 0 | 110 | 0.71 |
| HaA | Hayfield Silt Loam, 0-3% Slopes | 1-3 | 0.75 | 90 | 0.58 |
| HbB | Hixton Loam, 2 to 6% Slopes | >5 | 0 | 80 | 0.71 |
| Ho | Houghton Muck | 0-1 | 1 | 135 | 0.87 |
| KcB | Kickapoo Fine Sandy Loam 0-3% Slopes | 3-5 | 0.5 | 90 | 0.58 |
| KdB | Kidder loam, 2-6 % slopes | >5 | 0 | 105 | 0.68 |
| KdC2 | Kidder Loam, 6-12% slopes, eroded | >5 | 0 | 95 | 0.61 |
| KdD2 | Kidder Loam, 12-20% slopes, eroded | >5 | 0 | 85 | 0.55 |
| KeA | Kegonsa silt loam, 0-2% slopes | >5 | 0 | 105 | 0.55 |
| KeB | Kegonsa silt loam, 2-6% slopes | >5 | 0 | 125 | 0.81 |
| KrD2 | Kidder 10-20% Slopes eroded | >5 | 0 | 85 | 0.55 |
| KrE2 | Kidder Soils 20-35% Slopes eroded | >5 | 0 | 80 | 0.52 |
| LDF | Other Soil Types | >5 | 0 | 155 | 0.97 |
| Ma | Made Land (Other) | 0-1 | 1 | 155 | 1 |
| Mc | Marshan silt loam | 0-1 | 1 | 90 | 0.58 |
| MdB | McHenry Silt Loam, 2-6% slopes | >5 | 0 | 120 | 0.77 |
| MdC2 | McHenry Silt Loam, 6-12% slopes eroded | >5 | 0 | 110 | 0.71 |
| MdD2 | McHenry Silt Loam, 12-20% slopes eroded | >5 | 0 | 100 | 0.65 |
| MeA | Meridian Loam, 0-2% Slopes | >5 | 0 | 95 | 0.71 |
| M-W | Other Soil Types | >5 | 0 | 155 | 0.97 |
| Or | Orion Silt Loam | 1-3 | 0.75 | 145 | 0.94 |
| Os | Orion silt loam, wet | 0-1 | 1 | 145 | 0.94 |
| Ot | Otter Silt Loam | 0-1 | 1 | 140 | 0.9 |
| Other | Other Soil Types | >5 | 0 | 155 | 0.97 |

| SoilType | SoilName | DepthHighWater | WaterTableFactor | CropBuAC | YieldFactor |
|---|---|---|---|---|---|
| Pa | Palms Muck | 0-1 | 1 | 120 | 0.77 |
| PeC2 | Pecatonica silt loam, 2-6% slopes | 3-5 | 0.5 | 110 | 0.71 |
| PnA | Plano Silt Loam | >5 | 0 | 155 | 1 |
| PnB | Plano Silt Loam 2 to 6% Slopes | 3-5 | 0.5 | 130 | 0.91 |
| PnC2 | Plano Silt Loam, 6-12% slopes | 3-5 | 0.5 | 145 | 0.91 |
| PoB | Plano Silt Loam, 2-6% slopes | 3-5 | 0.5 | 145 | 0.91 |
| PrB | Port Byron Silt Loam 2 to 6% Slopes | 3-5 | 0.5 | 145 | 0.94 |
| PrC | Port Byron Silt Loam 6 to 12% slopes | 3-5 | 0.5 | 140 | 0.9 |
| QUA | Other Soil Types | >5 | 0 | 155 | 0.97 |
| RaA | Radford silt loam, 0-3% slopes | 1-3 | 0.75 | 145 | 0.94 |
| RnB | Ringwood silt loam, 2-6% slopes | >5 | 0 | 130 | 0.84 |
| RnC2 | Ringwood silt loam | >5 | 0 | 110 | 0.71 |
| RoB | Rockton Silt Loam, 2-6% slopes | >5 | 0 | 110 | 0.69 |
| RoC2 | Rockton Silt Loam, 6-12% slopes | >5 | 0 | 85 | 0.69 |
| RpE | Rodman sandy loam, 12-35 slopes | >5 | 0 | 110 | 0.69 |
| SaA | Sable silty clay loam, 0-3% slopes | 0-1 | 1 | 155 | 1 |
| ScA | St. Charles silt loam, 0-2% slopes | 3-5 | 0.5 | 150 | 0.94 |
| ScB | St. Charles silt loam, 2-6% slopes | 3-5 | 0.5 | 145 | 0.94 |
| ScC2 | St. Charles Silt Loam 6-12% eroded | 3-5 | 0.5 | 135 | 0.87 |
| ScD2 | St. Charles silt loam, 6-12% slopes, eroded | 3-5 | 0.5 | 135 | 0.87 |
| SfA | Salter silt loam, 0-2% slopes, eroded | 3-5 | 0.5 | 95 | 0.87 |
| SfB2 | Salter silt loam, 2-6% slopes, eroded | 3-5 | 0.5 | 110 | 0.71 |
| ShA | Salter Sandy Loam, wet variant, 0-3% slopes | 3-5 | 0.5 | 135 | 0.87 |
| SmB | Seaton Silt Loam 2 to 6% | 3-5 | 0.5 | 145 | 0.94 |
| SmC2 | Seaton Silt Loam 6 to 12% | 3-5 | 0.5 | 135 | 0.87 |
| SmD2 | Seaton Silt Loam 12 to 20% eroded | 3-5 | 0.5 | 110 | 0.71 |
| St | Stony and Rocky Land | >5 | 0 | 0 | 0 |
| TrB | Troxel Silt Loam 1 to 4% slopes | 3-6 | 0.6 | 145 | 0.91 |
| VrB | Virgil silt loam, 1-4 % slopes | 1-3 | 0.75 | 155 | 1 |
| VwA | Virgil silt loam, gravelly substratum, 0-3% slopes | 1-3 | 0.75 | 150 | 0.97 |
| W | Do Not Use | >5 | 0 | 110 | 0.69 |

| SoilType | SoilName | DepthHighWater | WaterTableFactor | CropBuAC | YieldFactor |
|---|---|---|---|---|---|
| Wa | Wacousta silty clay loam | 0-1 | 1 | 110 | 0.71 |
| water | water | 0 | 1 | 0 | 0 |
| WrB | Warsaw Silt Loam, 2-6% Slopes | >5 | 0 | 90 | 0.69 |
| WrC2 | Warsaw Silt Loam, 6-12% Slopes, eroded | >5 | 0 | 80 | 0.69 |
| WxB | Whalan silt loam, 2-6% slopes | >5 | 0 | 100 | 0.65 |
| WxC2 | Whalan silt loam, 6-12% slopes, eroded | >5 | 0 | 100 | 0.63 |

Step 2 = Generate Net Factor from Soil Type For District
[Water Table Factor] * [Yield Factor] * [Land Use Factor]

Step 3 = Generate Net Benefit Units from Soil Type for District
[Base Line Index] * [Measured Acres] * [Net Factor]

The following is an example from the final temp table that is created. Each soil type in the district is evaluated to determine if there is a benefit. Dry soils would calc to zero benefits; whereas wet soils would have benefits.

| Soil Type | Acres | Benefit Units |
|---|---|---|
| DnB | 97.55 | - |
| DnC2 | 8.39 | - |
| EdB2 | 4.56 | - |
| EdD2 | 7.48 | - |
| EfB | 113.63 | 160,215.71 |
| GP | 0.00 | - |
| GwB | 8.16 | - |
| GwC | 4.97 | - |
| HaA | 1.49 | 1,294.84 |
| KdC2 | 3.03 | - |
| KdD2 | 6.72 | - |
| KrE2 | 12.84 | - |
| MdB | 8.41 | - |
| MdC2 | 25.75 | - |
| MdD2 | 3.93 | - |

| Soil Type | Acres | Benefit Units |
|---|---|---|
| Os | 24.68 | 46,402.75 |
| Pa | 3.17 | 4,884.21 |
| PnA | 13.96 | - |
| PnB | 157.62 | - |
| PnC2 | 0.62 | 560.41 |
| RaA | 26.04 | 36,718.16 |
| RnB | 44.76 | - |
| RoB | 3.56 | - |
| SaA | 351.23 | 702,456.15 |
| ScA | 24.22 | 22,767.08 |
| ScB | 57.86 | 54,385.72 |
| ScC2 | 5.96 | 5,188.46 |
| VrB | 81.37 | 122,052.20 |
| WxB | 4.63 | - |
| WxC2 | 9.84 | - |
| **Grand Total** | 1,116.42 | 1,156,925.69 |

Step 4 = The above calculations are repeated; but not for the district; but for the individual parcel within the district (Save for Residential).

Step 5 = [Total Benefit of Individual Parcel] ÷ [Total Benefit of the District] = Percentage of District Benefit

Step 6 = [Percentage of District Benefit] * [Balance of Remaining District Assessment]

* Please note, that the 'Balance of Remaining District Assessment' is that portion of the remaining assessment less the minimum charges for both Residential and Agricultural. Residential automatically is assessed a minimum fee. As a general rule, houses are not built on wet soils and because the lots are typically a couple acres or less, the individual assessments would only amount to a few dollars. Additionally, there are some agricultural parcels that fall below the minimum of $75; because a parcel is basically all 'dry soils'. These parcels are also adjusted to the minimum and the continues to run until no further minimums are found. The Final 'Balance of Remaining District Assessment' is multiplied against the parcels percent of benefit.